ABSTRACT

This invention extends the range of optical data of mobile device by trading speed for distance as well as integrating a plurality of pulses over time to define a single bit of information. The present invention uses a number of integrated pulses to represent a single bit instead of utilizing a one to one correspondence between pulses and bits. The present invention executes a range extender application which executes on the mobile device without any hardware modification to the mobile device. The range extender application causes the optical transmitter to "stutter" or repetitively emanate the identical pulse representing a bit of information. Sufficient photons are thereby gathered at a receiver to reach a predetermined threshold. A tradeoff of the data transmission frequency in this invention is that a signal intensity drops by a factor of 100 when distance increases by a factor of 10 yielding a distance / intensity ratio of 1/10.